

# **Contract Opportunity Notice**

## **Projects Reducing Energy Use In Electronic Equipment**

### **Information Exchange Meeting August 12, 2003**

**Donald J. Aumann, PE**

**CEC Contract Manager**

([daumann@energy.state.ca.us](mailto:daumann@energy.state.ca.us) 916-654-4588)



8/14/2003

# Agenda

<b>9:00</b>	<b>Don Aumann PIER Project Mgr</b>	<b>Welcome, introductions, and meeting overview</b>
<b>9:10</b>	<b>Don Aumann</b>	<b>Background Findings to date Expected target areas</b>
<b>10:00</b>	<b>Participants</b>	<b>Prepared presentations</b>
<b>10:30</b>	<b>Break</b>	
<b>10:45</b>	<b>Judi Efhan Contracts Officer</b>	<b>Likely contract mechanism for new solicitation</b>
<b>11:15</b>	<b>Participants</b>	<b>Questions</b>
<b>11:45</b>	<b>Don Aumann</b>	<b>Meeting wrap-up</b>
<b>12:00</b>	<b>Adjourn</b>	



- **California electricity industry deregulation legislation in 1996**  
...PIER established (Public Interest Energy Research)
- **\$62 million/year research funding**  
... Formerly administered by investor-owned utilities
- **Legislative mandates guide program operation and review**



## **Advance science or technology to achieve public benefits**

- Improving energy cost/value
- Improving the environment, public health and safety
- Improving electricity reliability/quality/sufficiency
- Strengthening California economy
- Providing greater choices for California consumers



# Six PIER Program Areas

- **Buildings**  
**(Residential & Non-Residential)**
- Industrial/Ag/Water
- Strategic
- Environmentally Preferred Advanced Generation
- Environmental
- Renewables

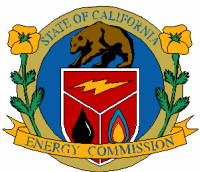


# Background & Findings

What are projects that...

**“Reduce Energy Use In Electronic Equipment”?**

- Focus is on energy use during low power mode operation (LPMO), such as
  - ... *“Set-top” boxes (cable TV, etc.)*
  - ... *DSL “modems”*
  - ... *Cordless phones*
- “Active” mode savings eligible too, such as
  - ... *Better power supplies*
  - ... *Improved equipment/software design*



# Background & Findings

- **LPMO losses well known**  
... magnitude uncertain
- **Most is known about residential sector**  
... 70+W/home est. (similar to new fridge)  
... 900 MW statewide est.
- **Commercial sector thought to be larger**  
... but little is known



# CEC Workshop 8/02

- National & international experts attended
- Presented LBNL survey of all known LPMO studies/programs
- Attendees identified research needs
- Details at <http://standby.lbl.gov>





## Known devices w/high LPMO energy use

- Set-top boxes
- Internet “modems”
- Power supplies
- Network routers

## Strategies to reduce LMPO energy

- Improve component efficiency
- Improve software so equipment operation better matches functional needs  
(e.g., shift “sleep” operation to “off”)
- Improve/modify technologies outside the device and/or change user behavior  
(e.g., change communications protocols to allow cable TV boxes to enter the lowest possible operational state)



## NRDC & Ecos Consulting Work

- Characterized typical performance  
*...low energy efficiency, high energy use*
- Identified low-cost, high-efficiency alternatives
- Details at [www.nrdc.org/air/energy/appliance/applianceinx.asp](http://www.nrdc.org/air/energy/appliance/applianceinx.asp)

## Current PIER Project

- Stimulate development & use of internal & external high-efficiency power supplies
- Develop power supply test standards
- Test power supply efficiency
  - ...*Direct-view and rear-projection TVs*
  - ...*Desktop PCs*
  - ...*CRT & LCD monitors*
  - ...*Power tool battery chargers*
  - ...*Small battery chargers*
  - ...*Consumer battery chargers*



## Current PIER Project

- Working with Power Supply Manufacturers Association (PSMA)
- Schedule: May 2003-April 2005
- Details at [www.efficientpowersupply.org](http://www.efficientpowersupply.org)  
(*available late August*)



# Survey of Residential LPMO Energy Use

## Current PIER Project

- Develop and test measurement protocols
- Develop survey methodology
- Schedule: June 2003-February 2004
- Survey results expected in late 2004

# Expected CNS Targets

- Identify residential electronic equipment with high energy use, particularly during LPMO, and improve the energy efficiency of this equipment, particularly during LPMO.

*(Promising technologies include set-top boxes, modems, and computer network equipment. However, proposers can target other technologies for which there is evidence of need and opportunity.)*



# Expected CNS Targets

- Identify non-residential electronic equipment with high energy use, particularly during LPMO, and improve the energy efficiency of this equipment, particularly during LPMO.
- Characterize and quantify standby energy loss in specific technology areas for which research is proposed





# Expected CNS Targets

- Improve energy efficiency of power supplies
- Develop software and controls to more efficiently and effectively implement energy-efficient operation in electronic equipment
- Develop solutions addressing user behavior that would result in greater use of energy-efficient low power modes



**Questions?**

**Break**



- **PG&E's Appliance Standards Proposal**  
*Leo Rainer, Davis Energy Group*
- **Others?**



# Upcoming Solicitation

## Programmatic Competitive Negotiation Solicitation (CNS)

*What is Programmatic?*

- Program-level support
- Interrelated public interest R&D activities
  - ...code changes
  - ...technology development
  - ...market connections
- Closely linked R&D projects



8/14/2003

**Within A Single Proposal**

# Upcoming Solicitation

## Programmatic CNS

*What is Programmatic?*

- **Program director...** overall management of individual projects
- **Program team...** includes proj. managers, technical experts, market experts, & admin
- **Proposals include**
  - ... 1 administrative project
  - ... 1 or more research projects
  - ... 1 market connection project



# Upcoming Solicitation

## Programmatic CNS

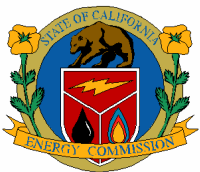
*What is CNS?*

- **Like an RFP**

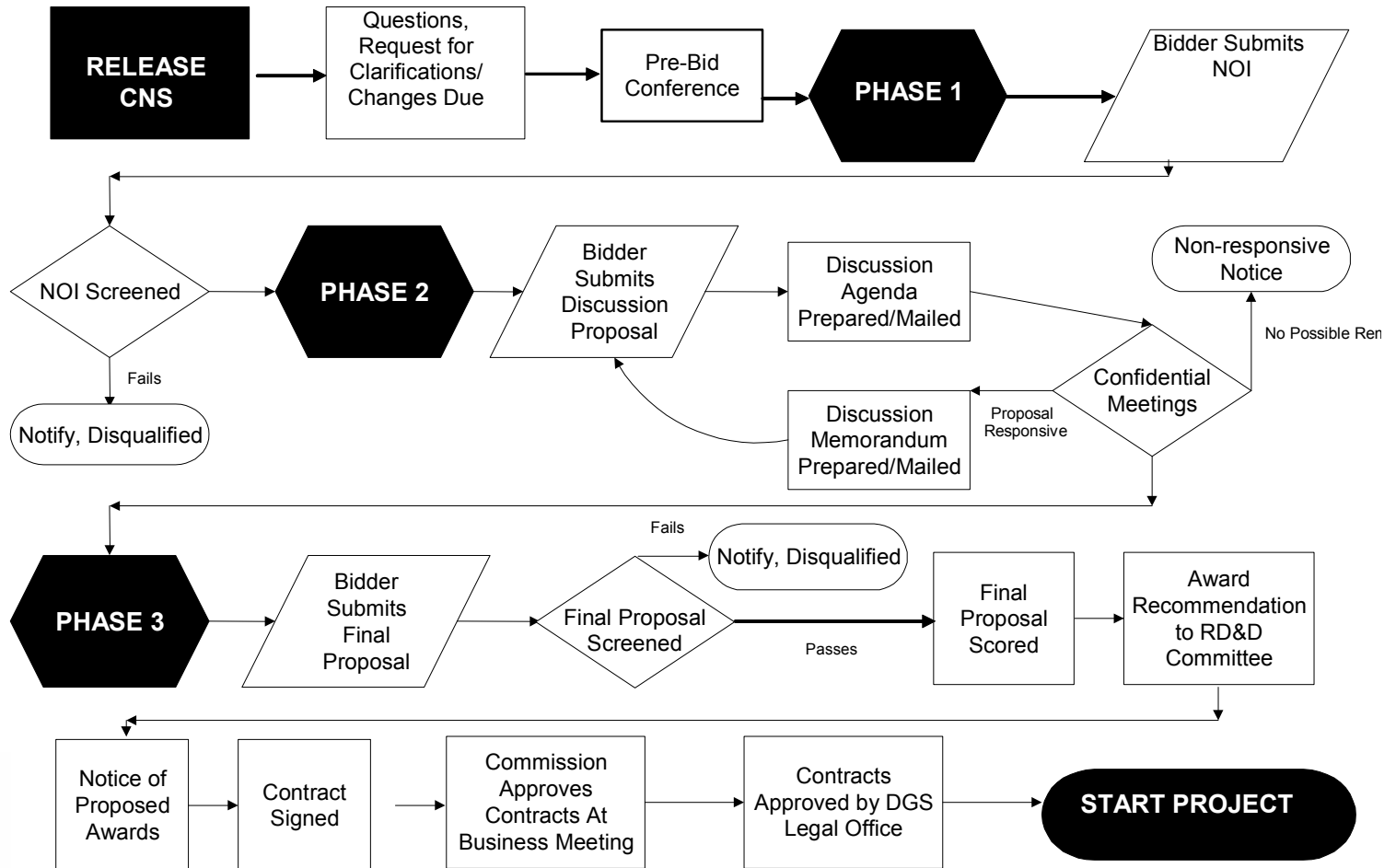
- ... CEC issues solicitation
- ... Contractor proposes projects
- ... CEC picks best proposals

- **Not like an RFP**

- ... CEC and contractors discuss proposals
- ... Contractors revise proposals based on CEC feedback



# CNS Process



**Questions on....**

**Programmatic concept?**

**CNS process?**





# Meeting Wrap-Up

- Thanks for coming!
- Start thinking about
  - ... projects
  - ... potential teams

**CNS Expected Early  
September**

